



British Thoracic Society
COVID-19 Follow Up – Organisational Survey Report
Follow Up Data Collection Period: 1 March 2020- 30 June 2020
Survey Submission Period: 23 July 2020 – 26 August 2020
Dr David Connell, Dr Tom Bewick, Professor Wei Shen Lim, Dr Philip Molyneux

Introduction

This report provides a summary of the results of a survey of Hospital Trusts and Health Boards across the UK conducted in August 2020.

BTS provided a range of rapidly produced, pragmatic guidance on aspects of respiratory care during the first peak of the pandemic, from March to May 2020. In the period since May 2020, BTS focused on supporting the resumption of respiratory services while being aware that COVID-19 remains endemic across the country with subsequent significant emerging waves in Autumn and Winter.

BTS undertook a survey, via its network of respiratory leads in UK hospitals, to gather information on changes made to respiratory services over the 4 months from March – June 2020 in the light of the COVID-19 pandemic, specifically in relation to arrangements for follow up of COVID-19 patients. This aimed to collect high level information to inform discussions at national level in relation to resource management, workforce planning, and future organisational needs- with particular current relevance in the face of further waves of COVID-19. Some of these questions are aligned to the BTS guidance on respiratory follow up of patients with radiologically confirmed COVID-19 pneumonia (1).

The survey showed that whilst delivering a significant amount of front line care, Respiratory Services across the UK adapted significantly during the pandemic, with a rapid expansion in virtual outpatient consultations, and an ability to maintain key services such as those for cancer. However, there was significant variation in the ability to services to manage the large number of patients who required follow-up following COVID-19, and support for clinicians and respiratory teams from organisations appeared to be highly variable. Understanding what was successful will help frame recovery from, and planning for, future waves of COVID-19 disease.

Method

BTS respiratory leads in 216 institutions in England, Scotland, Wales and Northern Ireland were contacted and 90 responses were received (42% of those contacted).

BTS respiratory leads are an informal network of senior clinical colleagues in each hospital or Trust throughout the UK. BTS uses this network as a conduit for communications to the wider respiratory team in each hospital and, on occasion, requests the return of organisational information such as this. Where a respiratory lead is not able to respond, we request that the survey is passed to a suitable colleague in the same institution.

The survey questions were provided via an online form and responses were submitted during the period 23 July – 26 August 2020.

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Respondents were invited to state whether the response provided was from a single hospital, or from a Trust (either single or multi-site). Respiratory leads were invited to provide the information above on behalf of their institution (either hospital or Trusts) - data were not verified.

The survey questions were developed by a small working group convened by the BTS Board of Trustees comprising Professor Wei Shen Lim, Dr Tom Bewick, Dr David Connell, Dr Philip Molyneaux. Support from BTS Head office was provided by Christina Moll and Sally Welham.

The survey questions are included at Appendix 1.

Response rate

Information was obtained from 50% of Trusts in England, 43% of Health Boards in Scotland, 57% of Health Boards in Wales, and from 60% of Trusts in Northern Ireland; we received one response from a hospital in the Channel Islands. The results are based on 90 responses in total (noting that, for example, some Trusts provided responses from more than one hospital in that Trust).

Summary of responses by country:

Country	Number of responses	% Trusts/Boards Covered	Number of Trusts (Hospitals) England, NI Number of Health Boards (Hospitals) Scotland, Wales
All	90 responses		
England	73 responses from 70 trusts	50% (70/141)	141 (181)
Scotland	7 responses from 6 Health boards	43% (6/14)	14 (26)
Wales	5 responses from 4 Health Boards	57% (4/7)	7 (17)
Northern Ireland	4 responses from 3 Health boards	60% (3/5)	5 (14)
Channel Islands	1 response from 1 Trust	50% (1/2)	2 (2)

The COVID-19 Landscape

Of the institutions that responded to the survey, 33% reported that they had 100-499 patients admitted to their trust with COVID-19 between 1 March 2020- 30 June 2020, while another 33% reported 500-900 patients. A further breakdown of responses can be found below:

Number of Adult Patients	Question 4: How many adult patients in total were admitted with COVID-19 in your trust for coronavirus with pneumonia (from 1 March 2020-30 June 2020)?	Question 5: How many adult patients with COVID-19 have been discharged and will fall under follow-up care in your trust (with their discharge dates between 1 March 2020-30 June 2020)?
0-99	11%	20%
100-499	33%	51%
500-999	33%	13%
1000+	16%	8%
Not Known	7%	8%

Resources and Services during the COVID-19 Pandemic

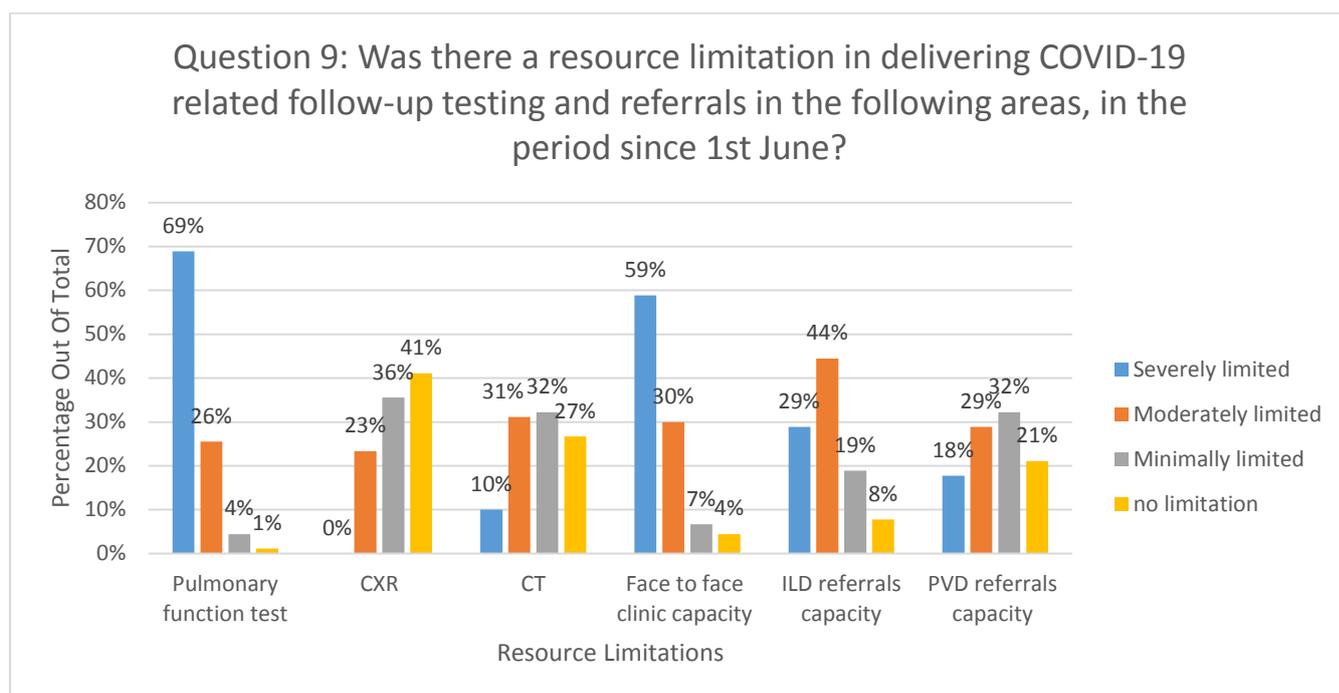
Institutions were asked about their access to certain services that existed before the pandemic and how they were utilised, and services set up in response to the pandemic. They were also asked how they were affected by the new models of working introduced by the BTS guidance on respiratory follow up of patients with radiologically confirmed COVID-19 pneumonia (1). A breakdown of these answers can be found below:

Resources Available	Question 6: Does your hospital have access to the following pre-existing services that are being used as part of COVID-19 recovery? Total Number of responses: 316	Question 7: Has your hospital set up services specifically in response to the COVID-19 pandemic? Total Number of responses: 227
Integrated community respiratory service	48 (15% of total responses)	11 (5% of total responses)
Respiratory infection / pneumonia nurse inpatient service	8 (3% of total responses)	3 (1% of total responses)
Clinical psychology assessment	27 (9% of total responses)	16 (7% of total responses)
Pulmonary rehabilitation	63 (20% of total responses)	12 (5% of total responses)
Post-ICU follow-up clinics	64 (20% of total responses)	32 (14% of total responses)
Dedicated COVID-19 rehabilitation beds	N/A	6 (3% of total responses)
Telephone clinics	64 (20% of total responses)	63 (28% of total responses)
Video clinics (e.g. Attend Anywhere)	30 (9% of total responses)	48 (21% of total responses)
Home spirometry	4 (1% of total responses)	5 (2% of total responses)
Other, please specify	8 (3% of total responses)	31 (14% of total responses)

Question 8: Which aspects of the work of your department have been most affected by the new models of working?	Greatly Affected	Moderately Affected	Slightly Affected	Not Affected
Lung Cancer 2 week wait	10%	30%	39%	21%
Bronchoscopy	51%	34%	11%	3%
Face to face outpatient care	90%	10%	0%	0%
Pulmonary function testing	89%	11%	0%	0%
Inpatient care	21%	46%	21%	12%
Pleural services	14%	40%	40%	6%

COVID-19 Specific Follow Up Data

Institutions were then asked about clinical resource limitations since June 1st, and other limitations for their site (question 9). Pulmonary Function Testing (PFTs) and face to face clinic capacity were both found to be severely limited, while access to chest X-rays were found to be minimally limited or with no limitation across most sites. Interstitial lung disease (ILD) referrals were found to be more affected than Pulmonary Vascular Disease (PVD) referrals. A closer breakdown of clinical resource limitations can be found below:



Regarding general COVID-19 follow up support from their organisation, institutions were asked if they were provided additional funding and had a named lead for COVID-10 follow up. The majority of institutions stated that they did not have additional funding, but had a named lead for COVID-19 follow up. A breakdown of answers can be found below:

	Question 10: Has your Hospital/ Trust/Health Board provided additional funding for COVID-19 follow-up?	Question 11: Does your Hospital/Trust/Health Board have a named lead for COVID-19 follow-up?
Yes	29%	51%
No	53%	40%
Don't know	18%	9%

Analysing these two questions by admission groupings, showcases that while many organisations did not receive additional funding for COVID-19 follow up, this was especially true for institutions with fewer than 100 COVID-19 admissions. Most organisations had a named follow up lead, with those with 1000+ admissions being the most likely to have one.

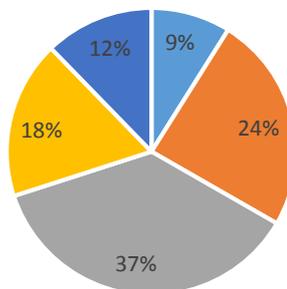
Question 10: Has your Hospital/ Trust/Health Board provided additional funding for COVID-19 follow-up?	Additional funding for COVID-19 follow-up? (Yes)	Additional funding for COVID-19 follow-up? (No)	Additional funding for COVID-19 follow-up? (Don't Know)
0-99 admissions	10%	70%	20%
100-499 admissions	20%	63%	17%
500-999 admissions	33%	47%	20%
1000+ admissions	50%	43%	7%
Unknown Admissions	33%	33%	33%

Question 11: Does your Hospital/Trust/Health Board have a named lead for COVID-19 follow-up?	Named lead for COVID-19 follow-up? (Yes)	Named lead for COVID-19 follow-up? (No)	Named lead for COVID-19 follow-up? (Don't Know)
0-99 admissions	20%	40%	40%
100-499 admissions	53%	43%	3%
500-999 admissions	50%	47%	3%
1000+ admissions	71%	29%	0%
Unknown Admissions	50%	17%	33%

Non COVID-19 Specific Follow Up Data

Institutions were also asked questions regarding their capacity for non-COVID clinics and services. Only 18% of institutions stated that their trust or hospital was operating to near normal pre-pandemic activity for chronic non-COVID work (question 12). Regarding respiratory outpatient clinic appointments, 36% of institutions stated that they canceled more than 75% of their appointments between 1 March- 30 June, while 66% switched to virtual appointments (questions 13 and 14). Furthermore, 53% of respondents said that between 75-100% of their department's F2F clinics were canceled over the past month, which would have been between July and August depending when the survey was completed (question 16).

Question 12: What is your trust's capacity for chronic non-COVID work (as of the end of June), in comparison with normal, pre-pandemic levels of activity? (Percentage of total responses)



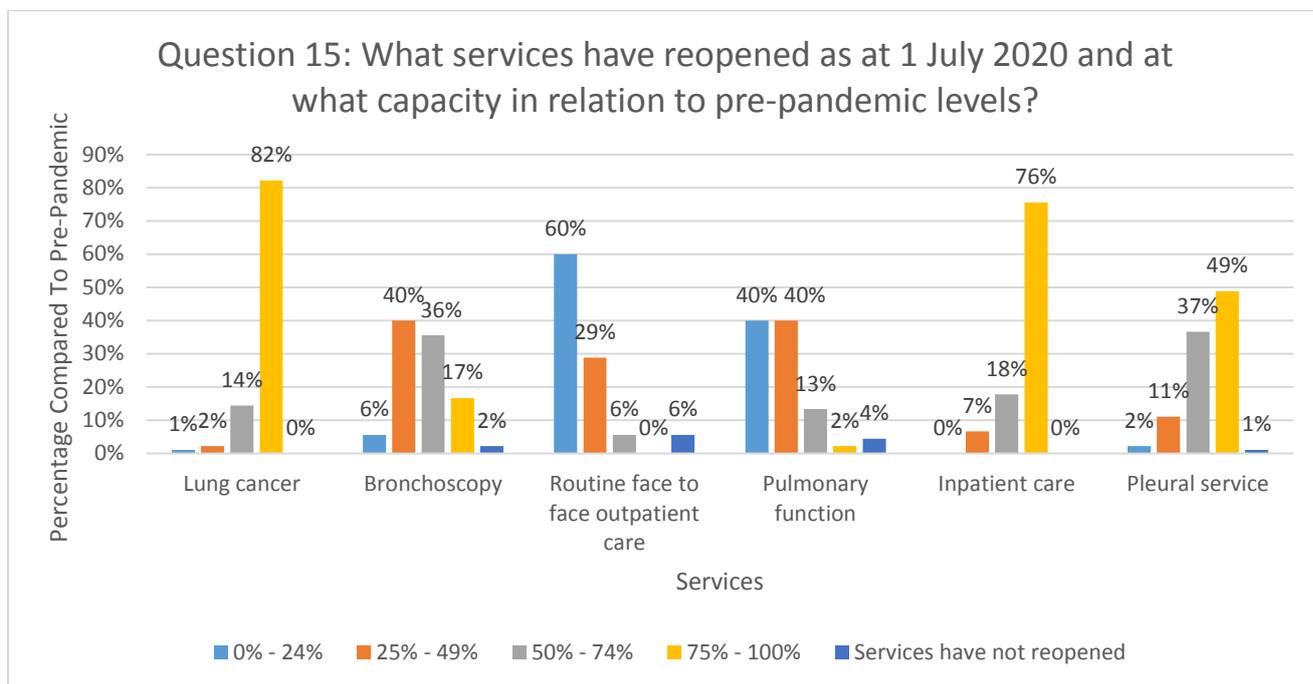
■ Under 25% ■ Between 25% - 49% ■ Between 50% - 74% ■ Between 75% - 100% ■ Do not know

	Question 13: Please estimate what proportion of respiratory outpatient clinic appointments were cancelled from 1 March 2020 - 30 June 2020	Question 14: Please estimate what proportion of respiratory outpatient clinic appointments were switched to virtual outpatients (either telephone or video) from 1 March 2020 - 30 June 2020
Under 25%	19%	9%
Between 25% - 49%	19%	7%
Between 50% - 74%	22%	18%
More than 75%	36%	66%
Do not know	4%	1%

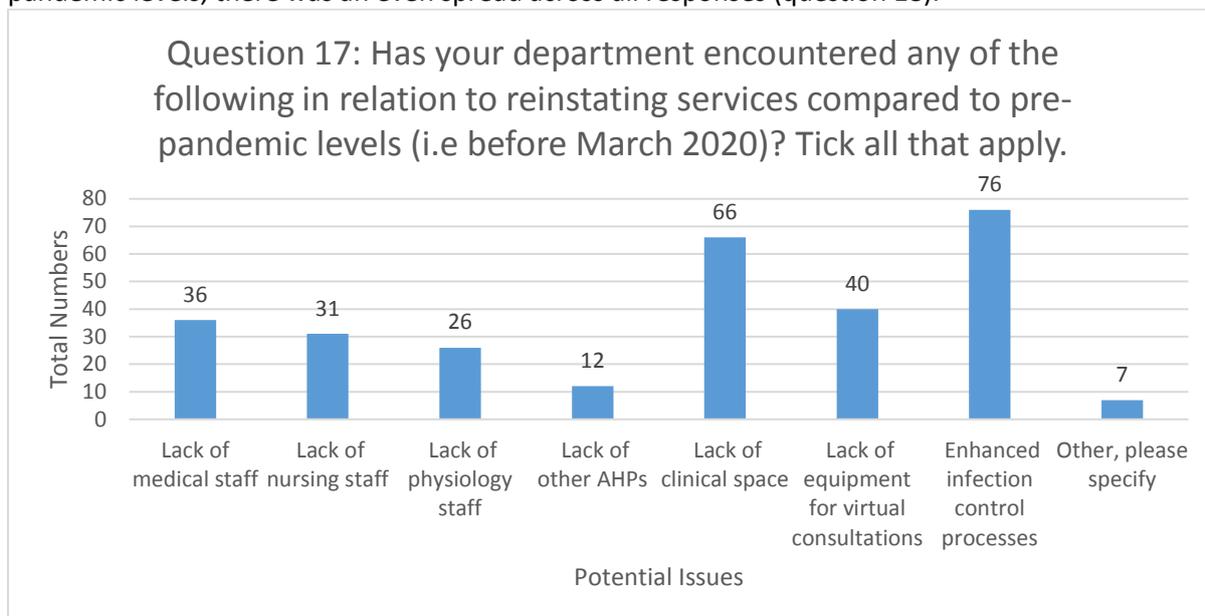
Question 16: What proportion of your department's face-to-face clinics have been cancelled over the past month? (July/August depending on survey completion date)	Responses	Percentage out of total
Under 25%	9	10%
Between 25% - 49%	10	11%
Between 50% - 74%	18	20%
Between 75% - 100%	48	53%
Do not know	5	6%

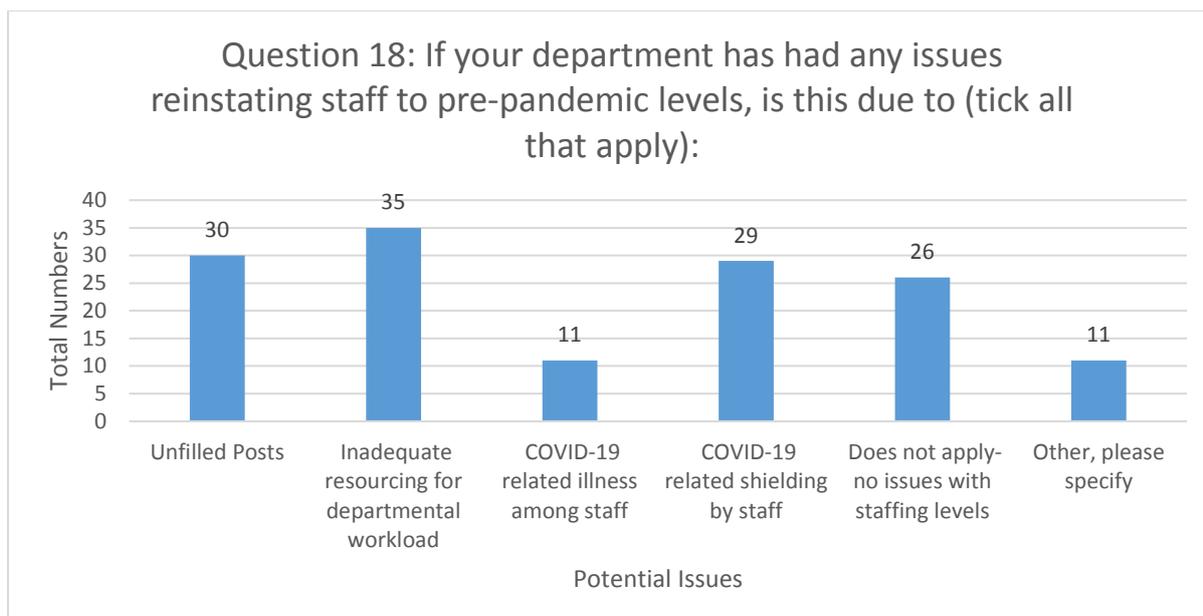
When asked about specific services, 82% and 76% of institutions believed their lung cancer services and inpatient care services were operating close to pre-pandemic capacity respectively by July. Comparatively, 60% of those asked felt that their routine face to face outpatient care services were

operating at 0-24% capacity, while 40% felt that their pulmonary function services were also operating at such a low capacity.



When asked about problems faced returning service levels back to pre-pandemic levels, more than 50% of institutions found difficulties due to a lack of clinical space and enhanced infection control processes (question 17). The third highest difficulty chosen was lack of equipment for virtual consultations. When faced with the same query regarding returning staffing levels to above pre-pandemic levels, there was an even spread across all responses (question 18).





Narrative Feedback

An option was provided for respiratory leads to mention any other related comments as free text. The majority of comments mentioned in some way a lack of resources. Further breakdown is as follows:

Lack of resources: 27/44

Lack of funding: 4/44

Guidance Difficulties: 1/44

Management Difficulties: 1/44

Positive feedback: 3/44

Other responses show a significant level of innovation in the follow-up of COVID-19 patients, with pathways and multidisciplinary teams (MDTs) involving Allied Healthcare Professionals, other medical specialties, and utilising a mixture of virtual and face-to-face clinics. However, a recurring theme emerged suggesting that this work had to be absorbed into an already stretched workforce, and without clear organisational support in many instances. It was noted that a great deal of support was found for acute COVID-19 care, but that this was much less common for follow-up. Again, it was suggested that this follow-up work could be managed in the summer of 2020 as non-COVID care was contracted, but this might not be possible in future waves.

Access to diagnostics (particularly pulmonary function testing) was frequently cited as a barrier in post-COVID care, and in routine ongoing respiratory work. Staffing, in diagnostics, and also in medical workforce, was also found to be a problem leading to delays in service provision in the aftermath of Wave 1. A number of respondents felt that services which had a stretched workforce before the pandemic had particularly struggled at this point.

Conclusion

This survey of Respiratory departments in the immediate aftermath of the first UK COVID-19 wave shows a community under strain, yet innovating in the face of unique circumstances.

Respiratory health care professionals played a key role in the care of patients hospitalised with acute COVID-19, often re-modelling services to manage this pandemic of acute respiratory disease. As part of this, there was a rapid switch in clinic delivery to virtual or telephone appointments, and only a small disruption to Lung Cancer services in most sites. Nevertheless, the majority of services (79%) did note some effect on their cancer service; notably, pleural services were more significantly affected and, given their importance in cancer management pathways, this is of some concern. Difficulty in re-starting pulmonary function tests developed during the end of wave 1, which appeared to have significant effects later in the year in clinic re-mobilisation.

The follow-up of patients with COVID-19 also saw significant innovation, but most hospitals did not report specific funding for these services. This was particularly so in hospitals with fewer admissions, and even hospitals with 500-1000 admissions only identified a lead for this work 50% of the time. A continued use of video or telephone consultations for COVID and non-COVID work continued after wave 1, and is likely to be a long-standing change in how Respiratory health care professionals work. The use of MDTs in the follow-up of patients with COVID-19 was identified as a core development, but staffing generally has been placed under significant strain in the period following the first part of the pandemic.

When looking at the sentiment expressed in the free text, several clinicians commented that organisations did not support the work of COVID-19 follow-up, and did not generally appear to fully realise the degree of difficulty respiratory services were under, having firstly covered front line COVID -19 services, whilst trying to maintain non-COVID work and then follow-up patients from the first wave. This may explain the quite significant degrees in variation of experience of our respondents, when faced with similar pressures.

Learning from some of the important issues identified in this survey, during and after the second and subsequent waves of COVID-19, will be essential to ensure that Respiratory Services are able to recover and re-mobilise quickly to help all of their patients in 2021. Respiratory Medicine continues to be at the forefront of the pandemic response in hospitals, and in helping the recovery of survivors of COVID-19; the innovative approaches seen in the first wave of the pandemic underscore the way the profession has adapted to these very challenging circumstances, which it will no doubt continue to do in 2021 and beyond.

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British Thoracic Society

Appendix 1: Survey Questions

1. Please tell us:
 - a. Your name
 - b. Your email address
2. Where are you based?
 - a. England
 - b. Scotland
 - c. Wales
 - d. Northern Ireland
3. Please tell us:
 - a. Hospital name
 - b. Trust/Health Board name

Part 1: General Questions on COVID-19 Cases

4. How many adult patients in total were admitted with COVID-19 in your trust for coronavirus with pneumonia (from 1 March 2020-30 June 2020)?
Note: Where clinical codes are available, please use: J12-18 (community-acquired pneumonia) AND U07.1 (COVID positive) or B97.2 (Coronavirus as cause of the pneumonia 0-50). If coding is not available please include number of patients admitted with a pneumonia in your total number.
 - a. 0-99
 - b. 100-499
 - c. 500-999
 - d. 1000+
 - e. Not known
5. How many adult patients with COVID-19 have been discharged and will fall under follow up care in your trust (with their discharge dates between 1 March 2020-30 June 2020)?
 - a. 0-99
 - b. 100-499
 - c. 500-999
 - d. 1000+
 - e. Not known

Part 2: Resources and Services

6. Does your hospital have access to the following pre-existing services that are being used as part of COVID recovery? Tick all that apply.
 - a. Integrated community respiratory service
 - b. Respiratory infection / pneumonia nurse inpatient service
 - c. Clinical psychology assessment
 - d. Pulmonary rehabilitation
 - e. Post-ICU follow up clinics
 - f. Telephone clinics
 - g. Video Clinics (e.g. Attend Anywhere)
 - h. Home spirometry

- i. Other please specify
7. Has your hospital set up services specifically in response to the COVID19 pandemic? Tick all that apply.
- a. Integrated community respiratory service
 - b. Respiratory infection / pneumonia nurse inpatient service
 - c. Clinical psychology assessment
 - d. Pulmonary rehabilitation
 - e. Post-ICU follow up clinics
 - f. Dedicated COVID19 rehabilitation beds
 - g. Telephone clinics
 - h. Video Clinics (e.g. Attend Anywhere)
 - i. Home spirometry
 - j. Other – please specify
8. Which aspects of the work of your department have been most affected by the new models of working? Please complete for each aspect:

Scale: Greatly affected, Moderately affected, Slightly affected, Not affected

- a. Lung Cancer 2 week wait
- b. Bronchoscopy
- c. Face to Face Outpatient Care
- d. Pulmonary Function
- e. Inpatient Care
- f. Pleural Services

COVID-19 specific follow up:

9. Was there a resource limitation in delivering COVID-19 related follow-up testing and referrals in the following areas, in the period since 1st June?
Scale: Severely limited/ Moderately limited/Minimally limited/no limitation
- a. Pulmonary function testing
 - b. CXR
 - c. CT
 - d. Necessary in person appointments
 - e. ILD (Interstitial Lung Disease) referrals capacity
 - f. PVD (Pulmonary Vascular Disease) referrals capacity
10. Has your Hospital/Trust/Health Board provided additional funding for COVID Follow up?
Yes/No/Don't know
11. Does your Hospital/Trust/Health Board have a named lead for COVID-19 Follow up?
Yes/No/Don't know

Non-COVID specific follow up:

12. What is your trust's capacity for chronic non-COVID work (as of the end of June), in comparison with normal, pre-pandemic levels of activity?
- Under 25%
 - Between 25%-49%
 - Between 50%-74%
 - Between 75%-100%
 - Do not know
13. Please estimate what proportion of respiratory outpatient clinic appointments were cancelled from 1 March 2020- 30 June 2020:
- Under 25%
 - Between 25- 49%
 - Between 50-74%
 - More than 75%
 - Do not know
14. Please estimate what proportion of respiratory outpatient clinic appointments were switched to virtual outpatients (either telephone or video) from 1 March 2020- 30 June 2020:
- Under 25%
 - Between 25- 49%
 - Between 50-74%
 - More than 75%
 - Do not know
15. What services have reopened as at 1 July 2020 and at what capacity in relation to pre-pandemic levels?
Scale: 0-24%, 25-49%, 50-74%, 75-100%, Services have not reopened
- Lung Cancer
 - Bronchoscopy
 - Routine face to face Outpatient Care
 - Pulmonary Function
 - Inpatient Care
 - Pleural Services
16. What proportion of your department's face-to-face clinics have been cancelled over the past month?
- Under 25%
 - 25%-49%
 - 50%-74%
 - 75%-100%
 - Do not know
17. Has your department encountered any of the following in relation to reinstating services compared to pre-pandemic levels (i.e before March 2020)? Tick all that apply.

- a. Lack of medical staff
 - b. Lack of nursing staff
 - c. Lack of physiology staff
 - d. Lack of other AHPs
 - e. Lack of clinical space
 - f. Lack of equipment for virtual consultations
 - g. Enhanced infection control processes
 - h. Other
18. If your department has had any issues reinstating staff to pre-pandemic levels, is this due to (tick all that apply):
- a. Unfilled posts
 - b. Inadequate resourcing for departmental workload
 - c. COVID-19 related illness among staff
 - d. COVID-19 related shielding by staff
 - e. Does not apply- no issues with staffing levels
 - f. Other (text box)
19. Do you have any other comments in relation to workforce or service development issues in relation to follow up of COVID-19?

References:

- 1) British Thoracic Society (BTS), 2020. *British Thoracic Society Guidance on Respiratory Follow Up of Patients with a Clinico-Radiological Diagnosis of COVID-19 Pneumonia*.
<https://www.brit-thoracic.org.uk/covid-19/covid-19-information-for-the-respiratory-community/>